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ABSTRACT

Because of the increased recognition of the multi-dimensionality of problems facing older adults and the need for greater focus on individual problems, increased efforts are being made to assess the needs of individuals. One promising area in this effort is functional assessment, which moves away from the use of chronological age, which classifies by birthdate, to a framework of analysis and testing of the individual's ability to perform natural and expected events within the natural environment. Services for the aged developed in the United States in response to preconceptions of need instead of to systematic needs assessment. As the service network evolved, the match between client needs and structured services to fulfill those needs was less than accurate. According to General Living Systems Theory, as a system's components become more numerous they become more specialized and decentralized, increasing the likelihood of conflict. The prinicples for optimizing the system then become assessment of individual need, aggregation of individual needs into a collectivity of needs, evaluation of barriers to coordination through a review of both structure and process and, finally, the minimization of conflict and the sharing of purpose. (LLL)

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OPTIMIZING NETWORK EFFECTIVENESS: APPLICATION OF GENERAL LIVING THEORY

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A longer version of this paper is forthcoming in the book titled: Communication Disorders in Aging edited by R. Hull and K. Griffin, Williams and Wilkins Publishing Co., Baltimore, MD Spring 1985.

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Introduction

This paper focuses upon the service delivery system which has evolved to serve the needs of older adults. Taking into account the older person as a single individual, moving to the collectivity of older adults, and on to large-scale human service networks, this paper is predicated on the assumption that the desire of service providers is to maximize the effectiveness of their services to the individual while at the same time providing their services in the most efficient manner possible to all older adults.

Individual Clients

The focus of any service delivery system has to be on the individual which it is ultimately intended to serve. In this case, the focus is on the individual older person who, through the process of aging or through the processes of environmental change, is having difficulty in sustaining life or in adapting to the surrounding world. Increased sophistication about the problems of aging has lead to a recognition that the problems once thought of as unidimensional are actually multi-dimensional and complex.

Because of the increased recognition of the multi-dimensionality of problems and the need for greater focus on individual problems, increased

efforts are being made to assess the needs of individual older adults accurately and effectively. One promising area is functional assessment.

Functional assessment "is a systematic, objective technique to measure the level at which a person is performing previously defined tasks" (N. Ernst, 1981, p. 1). Within this context, the research/service concept moves away from the use of chronological age, which simply classifies persons who happen to have a common birthdate, to a framework of analysis and testing of the individuals' ability to perform natural and expected events within the context of environmental circumstances.

A number of attempts have been made to develop measures of functional assessment. Reviews of these attempts can be found in Hickey, 1980; Salzman, Kochanshy, and Shruder, 1972; Ernst and Ernst 1984; Stewart, Ware and Brook 1981. Several of the more well known scales are the Older Americans Resources Survey or OARS (Pfeiffer, 1975), the Patient Classification for Long-Term Care (Jones, McKnight & McNitt, 1974), the Activities of Daily Living (Katz, et al., 1963), the PAMIE (Gurel, Linn & Livan, 1972), and the Stockton Geriatric Rating Scale (Meer and Baker, 1966).

The major commonality of measures of functional assessment is that they (a) are multi-dimensional, usually taking into account a variety of possible functionally deficit areas such as social relations, economic well being, etc. and (b) view functional disability or limitation as a continuum from low (no functional limitation) to high (severe functional limitation). The mere presence or absence of a deficit per se is not sufficient to cause a high rating of functional disability. Rather, it is the behavior associated with the deficit that leads to the rating. If a multiplicity of deficits or a single minor deficit exists, the disease

is debilitating and highly operative impairment exists. Therefore, the individual may not be able to function within the environmental context. Alternative services or new environments thus need to be located to facilitate the individual's continued survival. Low functional ability typically is indicative of a need for support services within a framework of some type of delivery system.

Clients as a Collectivity

As services for the aged began to develop in the United States, they frequently were in response to a perceived need which was already in existence among the aged population. Systematic needs assessment was relatively untried. As late as 1980, needs assessment of the elderly was described as being in a state of infancy (Little, 1980, p. 65). The response and the subsequent development of a service was often based upon political action by one group or another (only occasionally by older persons themselves) depending upon the perceived value of championing a cause for older people. The resultant patchwork of services evolving from this context served some of the need, some of the problems of older adults, but could not be classified as a "network" of services. This so called network did not differentiate among needs. It frequently established categorical and formula systems for funding which often did not mesh with need.

To assist in the development of an efficient and effective system of services, needs assessment methodologies based upon the collectivity of needs are beginning to take shape. The principle goal of any needs assessment process is to generate usable information on which to build a service delivery system. Unfortunately, services have traditionally been

designed by an agency staff or political decision-maker who "perceives" the existence of a need in the community and operates in such a manner as to close that perceived need.

Azarnoff and Seliger (1982) state that a need "as defined in most public legislation, is a vague standard or concept in which the community expresses concern about an individual group or problem" (p. 10). Needs may either be normative (comparison to a predetermined standard); relative (comparison to other persons around them); or expressed (defined by the number of people who indicate their need either verbally or by seeking services). A service need then evolves not so much from a single individual expressing a deficit, but rather from a collectivity of individuals experiencing some deficit. The more finely tuned the assessment procedures, the more accurate the match between the need and the service provided.

Emerging needs assessment methodologies are beginning to focus on the relationship between empirical needs on the one hand and the results of needs assessment procedures on the other (Neuber, 1980; Nickens, Purga and Noriega, 1980; Azarnoff and Seliger, 1982). Techniques are increasingly focusing on the "triangulation" of need, i.e., using several methods of measurement to accurately portray a particular phenomenon. Thus, such methods as survey research, social indicators, Rates-Under-Treatment, Key Informants and Community Forums (Nichens, Purga and Noriega, 1980), used singly or in combination, assist accurate assessment of community needs.

Historically, then, as the service network evolved, the clear-cut match between the needs of clients and the structured services to fulfill those needs was less than adequate. Misleading statistics on needs, the

aggregation of data and lack of specificity led to broad categorical programs intended to serve the largest number of clients but masked individual differences. This led to a multitude of agencies and subsequent programs which have in turn ended in immense problems of coordination.

With respect to structure, Miller (1976) proposes three general factors, based on the work of Rapoport and Horvarth (1961), which dictate the effectiveness of network component interactions.

First, network structures and the resulting degree of interaction among components include a "geographical distance" bias--that is, the influence of components' relative positions in physical space affect the probability that one component will contact another. Surprisingly there are few systematic studies addressing this rather obvious factor, but the difficulties encountered in attempting to integrate rural services for the elderly and the resulting move towards the use of "naturally" occurring helping networks exemplify its importance (Coward, 1978). The closer the component, the higher the probability of its use. Similarly, demonstrations that geographical centrality is an important determinant of the "distance" bias may be a critical determinant of how well networks perform (Galaskiewicz, 1979).

A second parameter governing network effectiveness is the "reciprocity bias"--the probability that if one component contacts another, the other will also contact the first. The determinants of such a bias clearly must be multivariate, but a key contributing factor seems to be the nature of the underlying reasons for establishing interagency contacts. For example, the form of reciprocity between agencies has been demonstrated to vary as a function of whether the focus is on (a)

resource transactions; (b) planning and coordination of service activities; or (c) direct client services. Agency subclusters tend to form on the basis of these categories (Van De Van, Walker, & Liston, 1979). Thus Area Agencies on Aging relate to each other on the coordination level while nutrition projects cluster around the provision of client services. This dialogue, while focusing on different network levels, may inadvertantly ignore the problems supposedly addressed by the other subcluster.

A final determining factor is the "popularity" or "field-force" bias--the probability that one component will be more attractive than another, and consequently be contacted more frequently than the other. The relevance of this bias to the problems of integrating agencies (individually or collectively) into a service network is obvious. For example, Galaskiewicz (1979) points out that the attractiveness of an agency is increased by such factors as (a) the extent to which it controls expendable funds; (b) the size of its labor force (greatest numbers of members); and/or (c) as previously mentioned, the geographical centrality of the organization. The greater the perceived attractiveness of the agency, the higher the probability that agencies will adopt behavior to have themselves recognized by the attracting agency, thus increasing their popularity by association. A number of home health agencies, for instance, spend a conservative amount of time insuring that hospital discharge planners are aware of their services. The focus is on the popularity of an agency contingent upon its ability to dispense clients.

In addition to the above structural determinants of network effectiveness, a number of statements can be derived from General Living

Systems Theory regarding processes as they relate to interactions between components within the total system. It should be emphasized that the following are only selective crosslevel hypotheses (in aggregate form) from the total set of possible hypotheses delineated by Miller (1976).

Hypothesis One: As a system's components become more numerous, they become more specialized, with an increased interdependence on critical adjustment processes among them. Heterogeneous components, however, adjust to each other best if they group together into two or more autonomous components on the basis of similar templates (charters), functions, or values. In the case of human service networks, subclustering of organizations based on the nature of functions directly supports this hypothesis (Van de Van, Walker, & Liston, 1979).

Hypothesis two: Whereas decentralization of decision-making within systems increases the effectiveness of individual components (e.g., groups, organizations), the components increasingly tend to make decisions without benefit of relevant information from elsewhere in the system. Thus, the more decentralized the system, the more likely there is to be discordant information. A particularly interesting example of this hypothesis is the increasing tendency of states and counties to become more autonomous with respect to the administration of human service programs, each entity acting independently without sharing common information (see Austin, 1976).

Hypothesis three: Segregation of components resulting from decentralization increases the probability of conflict occurring among those components, especially during periods of stress due to diminishing resources or conflicting signals or commands from the suprasystem. The implications of this hypothesis, which was initially advanced in the area

of labor and management relations is that a high proportion of adjustment processes must be devoted by the system to the resolution of such conflicts (March & Simon, 1958; Kerr & Siegel, 1954). Organization goals thus become subordinated to the attention focused on interagency conflicts as opposed to cooperation.

Optimizing Network Effectiveness

The above hypotheses, while not exhaustive, exemplify the kinds of biases and conditions which lead to segregated components within a system. The paradox is very apparent in the area of human service networks. A specific agency, or group of agencies, may tend to function in a competitive, autonomous fashion which, at least in the short run, increases the effectiveness of that particular component(s). Such decentralization, however, may impair the client service effectiveness of the total delivery system (network) in that inordinate amounts of human and material resources are wasted in the resolution of conflicts or in the provision of redundant services. The challenge then is to decentralize the system and increase total service effectiveness, while at the same time preventing the occurrence of conflicts or a splintering into agency subclusters which become disfunctional to the total system.

General Living Systems Theory suggests that the role of the suprasystem (i.e., legislative authorization, regional, state, or national governmental units, etc.) is the critical determinant of the degree to which conflict can be minimized, especially as available resources in the area of human services are reduced. Specifically, with respect to service for the elderly, the suprasystem must assure

consistent communications to each agency of the network regarding the norms and values governing existing or potential interactions among the organizations within the network.

The creation and enforcement of specific mechanisms by which the various agencies are expected to coordinate activities and share information must be an element of an effective system. The suprasystem must prescribe principles which govern the activities to be coordinated, the nature of information to be shared, and the manner in which conflicts are to be resolved. Finally, the continued assessment of the effectiveness of interactions among components, terms of the delivery of services, and the utilization of resources must be carried out. This includes both positive and negative feedback to the individual components regarding these evaluations.

Summary

The principles for optimizing the system then become (a) assessment of individual need, (b) accurate aggregation of individual needs into a collectivity of needs, (c) evaluation of barriers to coordination through a review of both structure and process and, finally (d) the optimization of the system through the minimization of conflict and the sharing of purpose. While on the surface this process appears relatively simple, to implement the activities require dedication and realistic planning. The current debate regarding human services and their place within the national scope requires all of us to be sensitive to the maximization of the potentials of the system to serve the clients for whom the system was developed.

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